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SHORTER ARTICLES AND DISCUSSION

DATA, DIALECTICS AND OTHER DIGRESSIONS

Some . . . persons vainly seek by dialectics and far-fetched arguments, either to upset or establish things that are only to be founded on anatomical demonstration, and believed on the evidence of the senses. He who truly desires to be informed of the question in hand, and whether the facts alleged be sensible, visible, or not, must be held bound either to look for himself or to take on trust the conclusions to which they have come who have looked; and indeed there is no higher method of attaining to assurance and certainty.—William Harvey, *Second Disquisition to John Riolon, Jun.*

TO THE EDITOR OF THE AMERICAN NATURALIST:

My reasons for asking you to publish the above from your September, 1911, issue are two: the text is excellent; the sermon is wide of the mark.

The text, the reader will have noted, heads a latest contribution to our knowledge of egg production in the domestic fowl¹ which Dr. Pearl has been prevailed upon to write up by the conviction that certain criticisms² “rest on either a misconception of what our results really are, or else a lack of understanding of the real facts regarding certain of the biological points involved.” For his “endeavor, if possible, to remedy this defect in some degree at least” those biologists who are thereby instructed in matters of fact will doubtless be grateful.

The obvious implication of Dr. Pearl’s quotation from Harvey and of his concluding remarks is that my arguments concerning the genotype concept are of a purely scholastic and “far-fetched” order.

In consideration of these implications and in justice to my paper which appeared in your June number may I call your readers’ attention to the following points?

First. I certainly did not “. . . seek by dialectics and far-fetched arguments, . . . to upset . . . things that are only to

¹ Pearl, R., “Biometric Arguments regarding the Genotype Concept,” AMER. NAT., Vol. 45, pp. 561–566, 1911.

² Harris, J. Arthur, “The Biometric Proof of the Pure Line Theory,” AMER. NAT., Vol. 45, pp. 346–363, 1911.

be . . . believed on the evidence of the senses.” Unfortunately for Pearl’s excellent-in-itself quotation, the genotype theory is not a pickled specimen concerning the structure of which all the anatomists who can crowd around the table will agree. Quite to the contrary, it is a far-reaching generalization of the kind which should not be accepted until it has been shown not only to describe and epitomize the results of great series of actually observed facts but to stand every test which can reasonably be applied to it. A careful examination of all the pure line literature known to me had convinced me that in the enthusiasm for the new theory the elementary principles of scientific reasoning were often ignored and matters of plain common sense overlooked. I had frequently found biologists enthusiastically supporting the popular theory without knowing what its essential implications are. It seemed useful, therefore, to “state the fundamental problems of the pure line theory as they appear to the biometrician” and to call attention to some of the weak points in arguments in its support. Judging from some of the vagaries encountered in the genotypic literature since then, I fear that my plea for more caution, less assumption and less reasoning in circles in our theorizing about “sensible, visible” facts was rather wasted effort.

Second. My paper was written *before* Pearl’s preliminary publication of the results of individual pedigrees in the same number of the AMERICAN NATURALIST, and before his advance statements concerning correlation in the paper just issued. If new and pertinent facts prove that my views were wrong the views will be discarded. When Dr. Pearl has given us all the data and not adumbrations merely—when all the cards are down, face up on the table—it will be time for a critic to show reasons for differences of opinion or to admit that he was wrong. Until that time it seems foolish—in fact dangerously near dialectics—to squander in argument space that might be used to publish tables of data. In passing, I must remind the reader that our present sore need is not *possible illustrations* of the genotype theory if valid but *critical evidence*³ for or against it.

³ Very unfortunately Pearl’s sentence, “So far as concerns . . . his personal opinion of the critical value of the work done in this laboratory no discussion will be entered upon by the present writer” cuts two ways. Some of those who have not read what I really said will conclude that

Third. Insinuations concerning dialectics may perhaps justify a digression concerning data. During the past five or six years some 100,000 countings, weighings, measurements, etc., bearing directly on the problem of pure lines in garden beans—the species on which Johannsen based his studies—have accumulated in my notes. These data have taught me how idle it is to discuss the pure line problem without the most refined biometric analysis of large masses of data. Such analysis necessarily proceeds with disheartening slowness. But I have been able to see no advantage in dragging this material through a long series of preliminary papers necessarily based upon uncompleted work. When the data are all in, and arranged in an orderly manner they will be honestly set forth as “an accumulation of plain, unadorned facts, available to any one’s inspection.”

J. ARTHUR HARRIS.

COLD SPRING HARBOR,
September 15, 1911.

actually or tacitly—and quite unfairly—I drew in question the accuracy or trustworthiness of the observations. Others will do Dr. Pearl the injustice of thinking that if a criticism was made there was probably some justification for it. Both will be quite wrong. In five different places I drew attention to the importance of the work of Pearl and Surface and emphatically stated that our differences—which as yet I see no reason to cancel out—are merely those of interpretation. What I actually said was, “The work of Pearl and Surface with poultry and maize seems to me to have no critical bearing on the pure line problem.” *Critical bearing* which I wrote seems to me to convey a meaning quite different from *critical value* which Dr. Pearl writes. A judge might recognize the critical value of an expert’s observations and yet fail to see that his testimony had any *critical bearing* in a case.